



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-1230; Directorate Identifier 2011-NM-107-AD]

RIN 2120-AA64

Airworthiness Directives; Embraer S.A. Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede an existing airworthiness directive (AD) that applies to certain Embraer S.A. Model ERJ 170 and ERJ 190 airplanes. The existing AD currently requires, for certain airplanes, repetitively replacing the low-stage check valve and associated seals of the right hand (RH) engine's engine bleed system with a new check valve and new seals, replacing the low pressure check valves (LPCV), and revising the maintenance program. For certain other airplanes, the existing AD requires replacing a certain low-stage check valve with an improved low-stage check valve. Since we issued that AD, we have received reports of uncommanded engine shutdowns on both Model ERJ 170 and ERJ 190 airplanes due to excessive wear and failure of LPCVs having certain part numbers. This proposed AD would also, for certain airplanes, require replacing certain LPCVs of the left-hand (LH) and RH engines, which would be an option for other airplanes. We are proposing this AD to prevent the possibility of a dual engine in-flight shutdown due to LPCV failure.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Embraer S.A., Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170 - Putim - 12227-901 São Jose dos Campos - SP – BRASIL; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; email distrib@embraer.com.br; Internet <http://www.flyembraer.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Cindy Ashforth, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone (425) 227-2768; fax (425) 227-1149.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-1230; Directorate Identifier 2011-NM-107-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will

also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

On June 23, 2010, we issued AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010). That AD required actions intended to address an unsafe condition on Embraer S.A. Model ERJ 170 and ERJ 190 airplanes.

Since we issued AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010), there have been occurrences of uncommanded engine shutdowns on both Model ERJ 170 and Model ERJ 190 airplanes due to excessive wear and failure of LPCVs having part number 1001447-3 and 1001447-4. Both engines of the airplanes have the same valves, which leads to the possibility of a dual engine in-flight shutdown due to LPCV failure. The Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil, has issued Brazilian Airworthiness Directives 2005-09-03R3 and 2006-11-01R6, both effective May 30, 2011 (referred to after this as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI for Embraer S.A. Model ERJ 170 airplanes states:

It has been found the occurrence of an engine in-flight shutdown * * * caused by the LPCV [low pressure check valves] failure P/N [part number] 1001447-3 with 3,900 Flight Hours (FH) installed on ERJ-170. This valve failed [to] open due [to] excessive wear. [I]t was found the occurrence of an engine shutdown on-ground, caused by the LPCV failure P/N 1001447-4 with 1,802 FH installed on ERJ-190 failed due [to] low cycle fatigue. Since the behavior of a valve P/N 1001447-4 removed from ERJ-190 is unknown on ERJ-170 and the P/N 1001447-4 is common between ERJ-170 and ERJ-190 airplane fleet, an action is necessary to prevent the installation, in ERJ-170 airplanes,

of LPCVs P/N 1001447-4 previously installed in ERJ-190 airplanes.

* * * * *

The MCAI for Embraer S.A. Model ERJ 190 airplanes states:

It has been found the occurrence of an engine in-flight shutdown * * * caused by the LPCV failure P/N [part number] 1001447-3 with 3,900 Flight Hours (FH) installed on ERJ-170. This valve failed [to] open due [to] excessive wear. [I]t was found the occurrence of an engine shutdown on-ground, caused by the LPCV failure P/N 1001447-4 with 1,802 FH installed on ERJ-190 failed due [to] low cycle fatigue. Since the behavior of a valve P/N 1001447-4 removed from ERJ-170 is unknown on ERJ-190 and the P/N 1001447-4 is common between ERJ-170 and ERJ-190 airplane fleet, an action is necessary to prevent the installation, in ERJ-190 airplanes, of LPCVs P/N 1001447-4 previously installed in ERJ-170 airplanes.

* * * * *

The unsafe condition is the possibility of a dual engine in-flight shutdown due to LPCV failure. The required actions include retaining the actions required by AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010), and include, for certain airplanes, replacing the LPCVs of LH and RH engines, which would be an option for certain other airplanes. You may obtain further information by examining the MCAI in the AD docket.

Relevant Service Information

EMBRAER has issued the following service information, which is intended to correct the unsafe condition identified in the MCAI.

- EMBRAER 170 Maintenance Review Board Report, MRB-1621, Revision 7, dated November 11, 2010.
- EMBRAER Service Bulletin 190LIN-36-0004, dated December 23, 2009.

Changes to AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)

Paragraphs (j)(11) through (j)(14) of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010), have been redesignated as paragraphs (o)(1) through (o)(4) of this proposed AD.

FAA's Determination and Requirements of This Proposed AD

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

Costs of Compliance

We estimate that this proposed AD affects 253 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Cost per product	Number of U.S. - registered airplanes	Cost on U.S. operators
Replacement of RH check valves on Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes (retained actions from existing AD 2010-14-14 (75 FR 42585, July 22, 2010))	3 work-hours X \$85 per hour = \$255 per replacement cycle	\$255 per replacement cycle	55	\$14,025 per replacement cycle
Replacement of LH check valves on Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes (retained actions from existing AD 2010-14-14 (75 FR 42585, July 22, 2010))	3 work-hours X \$85 per hour = \$255 per replacement cycle	\$255 per replacement cycle	75	\$19,125 per replacement cycle
Replacement of LPCVs with P/N 1001447-6 (new proposed action)	2 work-hours X \$85 per hour = \$170	\$170	253	\$43,010
Revision of maintenance program (new proposed action)	1 work-hour X \$85 per hour = \$85	\$85	253	\$21,505

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing airworthiness directive (AD) 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010), and adding the following new AD:

Embraer S.A.: Docket No. FAA-2012-1230; Directorate Identifier 2011-NM-107-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD supersedes AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010), which superseded AD 2007-16-09, Amendment 39-15148 (72 FR 44734, August 9, 2007). AD 2007-16-09 superseded AD 2005-23-14, Amendment 39-14372 (70 FR 69075, November 14, 2005).

(c) Applicability

This AD applies to Embraer S.A. Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes; Model ERJ 170-200 LR, -200 SU, and -200 STD airplanes; Model ERJ 190-100 STD, -100 LR, -100 ECJ, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes; certificated in any category; having Hamilton Sundstrand low pressure check valve (LPCV) part number (P/N) 1001447-3 or 1001447-4.

(d) Subject

Air Transport Association (ATA) of America Code 36, Pneumatic.

(e) Reason

This AD was prompted by reports of uncommanded engine shutdowns on both Model ERJ 170 and ERJ 190 airplanes due to excessive wear and failure of LPCVs having certain part numbers. We are issuing this AD to prevent the possibility of a dual engine in-flight shutdown due to LPCV failure.

(f) Compliance

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

(g) Retained Replacement for Right-Hand (RH) Engine on Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU Airplanes

This paragraph restates the requirements of paragraph (f) of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010). For Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes equipped with LPCVs having P/N 1001447-3: Within 100 flight hours after November 29, 2005 (the effective date of AD 2005-23-14, Amendment 39-14372 (70 FR 69075, November 14, 2005)), or prior to the accumulation of 3,000 total flight hours, whichever occurs later, replace the low-stage check valve and associated seals of the RH engine's engine bleed system with a new check valve and new seals, in accordance with the Accomplishment Instructions of EMBRAER Alert Service Bulletin 170-36-A004, dated September 28, 2005; or paragraph 3.C. of the Accomplishment Instructions of EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005, or Revision 01, dated March 10, 2008. As of August 26, 2010 (the effective date of AD 2010-14-14), only use EMBRAER Service Bulletin 170-36-0004, Revision 01, dated March 10, 2008, for the actions required by this paragraph. Repeat the replacement thereafter at intervals not to exceed 3,000 flight hours.

(h) Retained Provision for Removed Check Valves

This paragraph restates the provision specified in paragraph (g) of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010). Although EMBRAER Alert Service Bulletin 170-36-A004, dated September 28, 2005, specifies to send removed check valves to the manufacturer, this AD does not include that requirement.

(i) Retained Replacement for Left-Hand (LH) Engine on All Model ERJ 170 Airplanes

This paragraph restates requirements of paragraph (h) of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010). For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes equipped with LPCVs having P/N 1001447-3: Within 300 flight hours after September 13, 2007 (the effective date of AD 2007-16-09, Amendment 39-15148 (72 FR 44734, August 9, 2007)), or prior to the accumulation of 3,000 total flight hours, whichever occurs later, replace the low-stage check valve and associated seals of the LH engine's engine bleed system with a new check valve and new seals, in accordance with paragraph 3.B. of the Accomplishment Instructions of EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005; or Revision 01, dated March 10, 2008. As of August 26, 2010 (the effective date of AD 2010-14-14), only use EMBRAER Service Bulletin 170-36-0004, Revision 01, dated March 10, 2008. Repeat the replacement thereafter at intervals not to exceed 3,000 flight hours.

(j) Retained Provision for Removed Check Valves in Accordance with Other Service Bulletin

This paragraph restates the provision specified in paragraph (i) of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010). Although EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005, specifies to send removed check valves to the manufacturer, this AD does not include that requirement.

(k) Retained Actions and Compliance with Revised Service Information

This paragraph restates the requirements of paragraph (j) of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010), with revised service information for paragraphs (k)(3), (k)(7), and (k)(8) of this AD. Unless already done, do the following actions.

(1) For Model ERJ 170-200 LR, -200 STD, -and -200 SU airplanes equipped with LPCV having P/N 1001447-3: Within 100 flight hours after August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), or prior to the accumulation of 3,000 total flight hours, whichever occurs later, replace the low-stage check valve and associated seals of the RH engine's engine bleed system with a new check valve and new seals, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 170-36-0004, Revision 01, dated March 10, 2008. Repeat the replacement thereafter at intervals not to exceed 3,000 flight hours.

(2) For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes equipped with LPCV having P/N 1001447-3: Replacing the LPCV having P/N 1001447-3 with a new one having P/N 1001447-4, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 170-36-0011, Revision 02, dated July 19, 2007, terminates the repetitive replacements required by paragraphs (g), (i), and (k)(1) of this AD.

(3) For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes equipped with LPCV having P/N 1001447-3, at the earlier of the times specified in paragraphs (k)(3)(i) and (k)(3)(ii) of this AD, revise the

maintenance program to include maintenance Task 36-11-02-002 (Low Stage Bleed Check Valve), specified in Section 1 of the EMBRAER 170 Maintenance Review Board Report (MRBR), MRB-1621, Revision 6, dated January 14, 2010; or Revision 7, dated November 11, 2010. Thereafter, except as provided by paragraph (q) of this AD, no alternative inspection intervals may be approved for the task.

(i) Within 180 days after accomplishing paragraph (k)(2) of this AD.

(ii) Before any LPCV having P/N 1001447-4 accumulates 3,000 total flight hours, or within 300 flight hours after August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), whichever occurs later.

(4) For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes equipped with LPCV having P/N 1001447-3: As of August 26, 2010 (the effective date of the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), no person may install any LPCV identified in paragraph (k)(4)(i) or (k)(4)(ii) of this AD on any airplane.

(i) Any LPCV having P/N 1001447-3, installed on Model ERJ-170 airplanes, that has accumulated more than 3,000 total flight hours.

(ii) Any LPCV having P/N 1001447-3, installed on Model ERJ-170 and ERJ-190 airplanes, that has accumulated 3,000 or more total flight hours. To calculate the equivalent number of flight hours for a LPCV having P/N 1001447-3 that was installed on a Model ERJ-190 airplane to be installed on a Model ERJ-170 airplane, the flight hours accumulated in operation on ERJ-190 models must be multiplied by a factor of 2 (100 percent).

(5) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: Within 100 flight hours after August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), replace all LPCVs having P/N 1001447-3 that have accumulated 1,500 total flight hours or more as of August 26, 2010 (the effective date of AD 2010-14-14), with a new or serviceable LPCV having P/N 1001447-4 that has accumulated less than 2,000 total flight hours since new or since overhaul, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-36-0006, Revision 01, dated July 19, 2007.

(6) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: Replace all LPCVs having P/N 1001447-3 that have accumulated less than 1,500 total flight hours as of August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), before the LPCV accumulates 1,500 total flight hours or within 100 flight hours after August 26, 2010 (the effective date of AD 2010-14-14), whichever occurs later. Replace that LPCV with a new or serviceable LPCV having P/N 1001447-4 that has accumulated less than 2,000 total flight hours since new or since overhaul, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-36-0006, Revision 01, dated July 19, 2007.

(7) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: Within 200 flight hours after August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), or before any LPCV having P/N 1001447-4 installed on the right engine accumulates

2,000 total flight hours since new or since overhaul, whichever occurs later, replace the valve with a new or serviceable LPCV having P/N 1001447-4 that has accumulated less than 2,000 total flight hours since new or since overhaul, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-36-0014, Revision 01, dated January 14, 2009; or EMBRAER Service Bulletin 190LIN-36-0004, dated December 23, 2009 (for Model 190-100 ECJ airplanes). Repeat the replacement on the right engine at intervals not to exceed 2,000 total flight hours on the LPCV since new or last overhaul.

(8) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: Within 200 flight hours after August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), or before any LPCV having P/N 1001447-4 installed on the left engine accumulates 2,000 total flight hours since new or last overhaul, whichever occurs later, replace the valve with a new or serviceable LPCV having P/N 1001447-4 that has accumulated less than 2,000 total flight hours since new or since overhaul, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-36-0014, Revision 01, dated January 14, 2009; or EMBRAER Service Bulletin 190LIN-36-0004, dated December 23, 2009 (for Model 190-100 ECJ airplanes). Repeat the replacement on the left engine at intervals not to exceed 2,000 total flight hours on the LPCV since new or last overhaul.

(9) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: As of August 26, 2010 (the effective date of

AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), installation on the left and right engines with a LPCV having P/N 1001447-4 is allowed only if the valve has accumulated less than 2,000 total flight hours since new or last overhaul prior to installation.

(10) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: As of August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), no LPCV having P/N 1001447-3 may be installed on any airplane. Any LPCV having P/N 1001447-3 already installed on an airplane may remain in service until reaching the flight-hour limit defined in paragraphs (k)(5) and (k)(6) of this AD.

(l) New Terminating Action

For Model ERJ 190-100 STD, -100 LR, -100 ECJ, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes: Except as provided by paragraph (m) of this AD, within 10 months after the effective date of this AD, install a new LPCV having P/N 1001447-6, using a method approved by either the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or Agência Nacional de Aviação Civil (ANAC) (or its delegated agent). Installation of P/N 1001447-6 terminates the requirement for installation and repetitive replacement of the LPCV having P/N 1001447-3 or 1001447-4 required by paragraph (k) of this AD.

(m) New Exception

For Model ERJ 190-100 STD, -100 LR, -100 ECJ, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes; that have an LPCV,

P/N 1001447-4, that has been installed before the compliance time specified in paragraph (l) of this AD: Prior to the accumulation of 2,000 flight hours on the part since new or overhauled, install a new LPCV having P/N 1001447-6, using a method approved by either the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or ANAC (or its delegated agent).

(n) New Optional Terminating Action

For Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes; Model ERJ 170-200 LR, -200 SU, and -200 STD airplanes: Installation of a new LPCV having P/N 1001447-6 terminates the requirement for installation and repetitive replacement of the LPCV having P/N 1001447-3 or 1001447-4 required by paragraph (k) of this AD.

(o) Credit for Previous Actions

(1) This paragraph provides credit for the actions specified in paragraph (k)(2) of this AD, if those actions were performed before August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), using EMBRAER Service Bulletin 170-36-0011, dated January 9, 2007; or EMBRAER Service Bulletin 170-36-0011, Revision 01, dated May 28, 2007; which are not incorporated by reference in this AD.

(2) This paragraph provides credit for the actions specified in paragraphs (k)(5) and (k)(6) of this AD, if those actions were performed before August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), using EMBRAER Service Bulletin 190-36-0006, dated April 9, 2007, which is not incorporated by reference in this AD.

(3) This paragraph provides credit for the actions specified in paragraph (k)(1) of this AD, if those actions were performed before August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), using EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005, which is not incorporated by reference in this AD.

(4) This paragraph provides credit for the actions specified in paragraph (k)(3) of this AD, if those actions were done before August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), using Task 36-11-02-002 (Low Stage Bleed Check Valve) specified in Section 1 of the EMBRAER 170 Maintenance Review Board Report (MRBR), MRB-1621, Revision 5, dated November 5, 2008, which is not incorporated by reference in this AD.

(p) New Parts Installation Limitations

(1) For Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes; and Model ERJ 170-200 LR, -200 SU, and -200 STD airplanes: As of the effective date of this AD, no person may install an LPCV having P/N 1001447-4 that was previously installed on any Model ERJ-190 airplane, on any airplane, unless the valve has been overhauled.

(2) For Model ERJ 190-100 STD, -100 LR, -100 ECJ, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes: As of the effective date of this AD, and until the effective date specified in paragraph (p)(3) of this AD, no person may install an LPCV having P/N 1001447-4 that was previously installed on any Model ERJ-170 airplane, on any airplane, unless the valve has been overhauled.

(3) For Model ERJ 190-100 STD, -100 LR, -100 ECJ, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes: As of 10 months after the effective date of this AD, no person may install any LPCV having P/N 1001447-4, on any airplane.

(q) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Cindy Ashforth, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone (425) 227-2768; fax (425) 227-1149. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of

Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(3) AMOCs approved previously in accordance with AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010), are not approved as AMOCs with this AD.

(r) Related Information

(1) Refer to MCAI Brazilian Airworthiness Directive 2005-09-03R3, effective May 30, 2011; Brazilian Airworthiness Directive 2006-11-01R6, effective May 30, 2011; and the following service information; for related information.

(i) EMBRAER Service Bulletin 170-36-A004, dated September 28, 2005.

(ii) EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005.

(iii) EMBRAER Service Bulletin 170-36-0004, Revision 01, dated March 10, 2008.

(iv) EMBRAER Service Bulletin 170-36-0011, Revision 02, dated July 19, 2007.

(v) EMBRAER Service Bulletin 190-36-0006, Revision 01, dated July 19, 2007.

(vi) EMBRAER Service Bulletin 190-36-0014, Revision 01, dated January 14, 2009.

(vii) EMBRAER Service Bulletin 190LIN-36-0004, dated December 23, 2009.

(viii) Task 36-11-02-002 (Low Stage Bleed Check Valve) specified in Section 1 of the EMBRAER 170 MRBR MRB-1621, Revision 6, dated January 14, 2010.

(ix) Task 36-11-02-002 (Low Stage Bleed Check Valve) specified in Section 1 of the EMBRAER 170 MRBR, MRB-1621, Revision 7, dated November 11, 2010.

(2) For service information identified in this AD, contact Embraer S.A., Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170 - Putim - 12227-901 São Jose dos Campos - SP – BRASIL; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; email distrib@embraer.com.br; Internet <http://www.flyembraer.com>.

You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

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